| r ID 94673<br>2:25:35 PM |   |  | *946  | 373*   |             |              |               |               |                  | Page 1         |
|--------------------------|---|--|---|--|-------------|--------------|---------------|---------------|------------------|----------------|
| <b>03</b> 027-7          |   |  | Accept  | *N900  | 040         | 100          | <b>*</b> 5    |               | 1 71             | S1*<br>S2*     |
|                          |   | *8*<br>*8*   |   |  |             | _            |               | Stor          | 4                |                |
| Process Plan:<br>QC:نر   |   | Date: <i>[2-26-12</i> ]<br>Date:   | Tooling: SPC (Y/N):   |  | <del></del> |              | 1             |               | , "IXI           | R1*<br>R2*     |
| -                        |   |  | Set Up/<br>Run Hours  | Tool ID  | Tool#       | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
| Revision                 | Nbr   |  |   |  |             |              |               |               |                  |                |
| Rev B                    |   |  |   |  |             |              |               |               |                  |                |
| fLO<br>t                 | Memo 1-Cut as per ***NOTE C Dwg Rev: Prog Rev:                        | GRAIN DIRECTION******<br><br>  | 0.00  | <sup>1</sup> 1   |             |              | _8_           |               | · <u></u>        | Jm 13-2-8      |
|                          | 2:25:35 PM  03027-7  Clip  2/19/12 Star /11/13 Req  Process Plan: QC: | 2:25:35 PM  D3027-7  Clip  2/19/12 Start Qty: 8.00  /11/13 Req'd Qty: 8.00  Process Plan:  Operation Description  Revision Nbr  Rev B  FLOW WATER JET  Memo 1-Cut as pe ***NOTE C Dwg Rev: Prog Rev: Prog Rev: | 2:25:35 PM  D3027-7  Clip  2/19/12 Start Qty: 8.00 *8*  /11/13 Req'd Qty: 8.00 *8*  Process Plan: Date: 225-12  Operation Description  Revision Nbr  Rev B  FLOW WATER JET  Memo 1-Cut as per Dwg D3027 | 2:25:35 PM  D3027-7  Accept  Clip  2/19/12 Start Qty: 8.00 *8*  //11/13 Req'd Qty: 8.00 *8*  Process Plan: Date: D2D-12 Tooling: SPC (Y/N):  Operation Set Up/ Run Hours  Revision Nbr  Rev B  O.00  FLOW WATER JET  Memo 1-Cut as per Dwg D3027  ***NOTE GRAIN DIRECTION********  Dwg Rev: Prog Rev: Pr | Accept      | Accept       | Accept        | Accept        | Accept           | Accept         |

8 8 JM13-2-8

0.00

0.00

QC2- Inspect parts off machine FAI/FAIB

Memo

110

\*110\*

Quality Control

| _  | _         |   |               |      |                              |   |          |                               |  |   | DQA:   | My Chate                                      | : 13/02/25   |
|--|-----------|---|---------------|------|------------------------------|---|----------|-------------------------------|--|---|--|---|--|
| NCR:   | Yes       | ) / No  |               |      |                              | WORK ORDER NON-   | COI      | NFORI                         | MANCE / UPD  | DATE                                    | QA Closed:   | Date  | ::/  |
| Work Orde  | er:       | 4   | 746           | 13   |                              | DISPOSITION   |          |                               |  | AGAINST DE                              | PARTMENT   | /PROCESS                                      |  |
|  |           | D3  | 3027          | 7-7  |                              | Rework<br>Scrap X<br>Use-as-is<br>Work Order Update                   |          | •                             | Skid-tube  Machining  noforming  Large Fab         | Crosstube Small Fab Finishing Composite | +  | Water Jet d. Eng. Coor. re/Packaging Supplier | Engineering Quality Other                                |
| Root   |           |   | _             |      |                              | otion of work order update  | 1        | Initial                       | Acti   |   | Sign &   |   |  |
| Cause  | $\square$ | Date  | Step          | Qty  | , (                          | or Non-conformance  | Cr       | ief Eng                       | Descri   | iption                                  | Date   | Verification                                  | QC Inspector   |
| Doc/Data Equip/Tooling Operator Material Setup Other Process | X         | 13.78   | 110           |      | maper                        | scrop operation  Les where  A  A  A  A  A  A  A  A  A  A  A  A  A     | a        | CAS<br>FE                     | byateal?   | 121889<br>121889                        | Bn<br>(3-2.8   | 15 2 8  | 0AS<br>16<br>257042                                      |
| Supplier<br>Training<br>Unapproved                           |           |   |               |      | R.C. opc.<br>max. Be<br>LU:3 | 14 (8)<br>14tor Dedit chale<br>for start 508                          | 13       | 12/15                         | View View  | 11.89                                   | 70.  |   | 13/2/15  |
|  |           |   |               |      |                              | F   | AUL      | T CATE                        | GORY   |   | (1/)   |   |  |
| Landi  |           | Bending<br>Centre No<br>Cracks<br>Crushed/O<br>Cuffs<br>Heat Trea | Crimped.<br>t |      | O/S                          | General Bend BOM/Route Broken/Damaged Burrs Contamination Countersink |          | Instruct<br>Mainte<br>Mislabe | on Incomplete<br>ions Incomplete/U<br>nance<br>led | ndea                                    | Ovalized Over/Under Part Incorred Part Lost/Mi Part Moved Positioned V | ct<br>ssing<br>Vrong                          | Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled |
|  |           | Inspection<br>Ripples in  | •             | rube | <u> </u>                     | Cut Too Short<br>Drill Holes  | $\vdash$ | Misread<br>Offset             | 1  | <u>L</u>                                | Power Loss/  | , <u> </u>                                    | Other  |
|  | 1         | · · · · · · · · · · · · · · · · · · ·                             |               |      |                              | . U   | 4        | I O H J C L                   |  |   | 7300000  | 44/ 4   | > 0 .0 0 VVI ./ ·  |

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

| Work Orde<br>December-19-12   |                       |   |                      | *946                             | 73*       |       |              |               |            |               |                  | Page 2         |          |
|---|-----------------------|---|----------------------|----------------------------------|-----------|-------|--------------|---------------|------------|---------------|------------------|----------------|----------|
| Revision ID:<br>tem Name:   | D3027-7 Clip 12/19/12 | Start Qty: 8.00   | *8*                  | Accept                           | *N900     |       | 100          | )*            | Setup      | Start<br>Stop | *N:              | S1*<br>S2*     |          |
| Required Date:<br>Reference:  | 1/11/13               | Req'd Qty: 8.00   | *8*                  |                                  | Customer: |       |              |               |            |               |                  |                |          |
| Approvals:  |                       | nn:   |                      |                                  |           | ate:  |              |               | Run        | Start<br>Stop | 1/1              | R1*<br>R2*     |          |
| Sequence ID/<br>Work Center II<br>120<br>*170*<br>QC<br>Quality Control | D                     | Operation Description QC8- Inspect parts - secondary Memo | ond check            | Set Up/ Run Hours  0.00  15 0.00 | Tool ID   | Tool# | Plan<br>Code | Accept<br>Qty | Rej<br>Qty |               | Reject<br>Number | Insp.<br>Stamp | -        |
| 130<br><b>*130*</b><br>Brake NC<br>Brake NC                             |                       | NC BRAKE  Memo  Deburr if ne                              | cessary<br>Dwg D3027 | 0.00                             |           |       |              | 8             |            |               |                  | <u>S</u><br>(3 | B<br>loz |
| <sup>140</sup><br><b>*1⊿∩*</b><br><sup>QC</sup>                         |                       | QC5- Inspect part comp                                    |                      | 0.00 SMS<br>0.00 B2 Y            |           |       |              | 8             |            |               |                  |                |          |

140

\*140\*

Quality Control

|               |      |            |            |          |     |                            |          |          |                    |            |        | DQA:          | Da            | ite: | <b>†</b>           |
|---------------|------|------------|------------|----------|-----|----------------------------|----------|----------|--------------------|------------|--------|---------------|---------------|------|--------------------|
| NCR:          | Yes  | / No       |            |          |     | WORK ORDER NON-C           | 100      | NFORM    | AANCE / UPI        | DATE       |        | OA Clasad.    |               | .+   |                    |
| -             |      |            |            |          |     |                            |          |          |                    |            | _      | QA Closed:    | Da            | ite: |                    |
| Work Ord      | or.  |            |            |          |     | DISPOSITION                |          |          |                    | AGAINST DI | ΕP     | PARTMENT      | /PROCESS      |      |                    |
| VVOIR OIG     | ΞI.  |            |            |          |     | Rework                     | 1        | 1        | Skid-tube          | Crosstube  | ٦      |               | Water Jet     |      | Engineering        |
| Part I        | Vo.  |            |            |          |     | Scrap                      | 1        | 1        | Machining          | Small Fab  | 1      | Pro           | d. Eng. Coor. | -    | Quality            |
|               |      |            |            |          |     | Use-as-is                  | 1        | I        | noforming          | Finishing  | 1      |               | e/Packaging   |      | Other              |
| NCR I         | Vo.  |            |            | ·        |     | Work Order Update          |          | ļ        | Large Fab          | Composite  |        |               | Supplier      | -    |                    |
|               |      |            | ſ          | ĭ        |     |                            |          |          |                    |            | _      |               |               |      | r                  |
| Root          |      |            | <u>.</u>   | ۵.       |     | ption of work order update | 1        | Initial  |                    | tion       |        | Sign &        |               |      |                    |
| Cause         |      | Date       | Step       | Qty      | (   | or Non-conformance         | Ch       | nief Eng | Desci              | ription    | +      | Date          | Verificatio   | n    | QC Inspector       |
| Doc/Data      |      |            |            |          |     |                            |          |          |                    |            | ł      |               |               |      |                    |
| Equip/Tooling |      |            |            | i        |     |                            |          |          |                    |            | l      |               |               |      |                    |
| Operator      |      |            |            |          |     |                            |          |          |                    |            |        |               |               |      |                    |
| Material      |      |            |            |          | •   |                            |          |          |                    |            |        |               |               |      |                    |
| Setup         |      |            | ]          |          |     |                            |          |          |                    |            | ı      |               |               |      |                    |
| Other         |      |            |            |          |     |                            |          | -        |                    |            |        |               |               |      |                    |
| Process       |      |            |            |          |     |                            |          |          |                    |            | ١      |               |               |      |                    |
| Supplier      |      |            |            |          |     |                            |          |          |                    |            | 1      |               |               |      |                    |
| Training      |      |            | Ī          |          |     |                            |          |          |                    |            |        |               |               |      |                    |
| Unapproved    |      | i          |            |          |     |                            | <u> </u> |          |                    |            | 1      |               |               |      |                    |
|               |      |            |            |          |     | F.                         | AUL      | T CATE   | GORY               |            |        |               |               |      |                    |
| Landi         | ng ( | Gear       |            |          |     | General                    | _        | ,        |                    | _          | _      |               |               |      | -                  |
|               |      | Bending    |            |          |     | Bend                       | L        | Grain    |                    |            | ┙      | Ovalized      |               |      | Pressure/Forced    |
|               |      | Centre No  | ot Concer  | ntric to | o/s | BOM/Route                  |          | Hardwa   | re                 | L          | ╛      | Over/Under    | tolerance     |      | Temperature/Cure   |
|               |      | Cracks     |            |          |     | Broken/Damaged             |          | Inspecti | on Incomplete      |            | ╝      | Part Incorred | ct            |      | Weld               |
|               |      | Crushed/   | Crimped.   |          |     | Burrs                      |          | Instruct | iorıs Incomplete/l | Unclear    |        | Part Lost/Mi  | ssing         |      | Wrong Stock Pulled |
|               |      | Cuffs      |            |          |     | Contamination              |          | Mainte   | nance              |            | ]      | Part Moved    |               |      |                    |
|               |      | Heat Trea  | t          |          |     | Countersink                |          | Mislabe  | led                |            | $\neg$ | Positioned V  | Vrong         |      |                    |
|               |      | Inspection | n Strip in | Tube     |     | Cut Too Short              |          | Misread  | f                  |            |        | Power Loss/   | Surge         |      | Other              |

Offset -

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

| Work Orde<br>December-19-12                                     |                     |  |                    | *946                         | 373*                     |                     |                |                     | Page 3                       |
|---|---------------------|--|--------------------|------------------------------|--------------------------|---------------------|----------------|---------------------|------------------------------|
| Revision ID:  | D3027-7             |  |                    | Accept                       | *N900                    | <b>04010</b>        | <b>n</b> *     | Setup Start<br>Stop | *NS1*<br>*NS2*               |
| Start Date:<br>Required Date:<br>Reference:                     | 12/19/12<br>1/11/13 | Start Qty: 8.00<br>Req'd Qty: 8.00           | *8*<br>*8*         |                              | Cust Item I<br>Customer: | D:                  |                |                     |                              |
| Approvals:  | Process Pla         | n:   | Date:              | Tooling:                     | Da                       | ate:                |                | Run Start           |                              |
|   | QC:                 |  | Date:              | _ SPC (Y/N):                 | Da                       | ate:                |                | Stop                | *NR2*                        |
| Sequence ID/ Work Center II 150 *150* HandFinish Hand Finishing | D                   | Operation Description Chemical Conversion Co | oat per QSI005 4.1 | Set Up/<br>Run Hours<br>0.00 | Tool ID                  | Tool # Plan<br>Code |                | Qty                 | Reject Insp.<br>Number Stamp |
| *160<br>*160*<br>QC<br>Quality Control                          |                     | QC3- Inspect Part Finish  Memo               | ı                  | 0.00 <b>3</b>                | H                        |                     | 8              |                     |                              |
| 170<br>* <b>17</b> 0*   |                     | Identify as per dwg & St                     | ock Location:      | J. J <sub>0.00</sub>         |                          |                     | ξ <sub>V</sub> |                     | $\sim$                       |
| Packaging   |                     | Memo   |                    | 0.00                         |                          |                     | -OX-           |                     | -01                          |

Packaging

|               |           |           |          |        |  |           |  |   | DQA:         | Date:   | 1                               |
|---------------|-----------|-----------|----------|--------|--|-----------|--|---|--------------|---|---------------------------------|
| NCR: Y        | es / No   |           |          |        | WORK ORDER NON-C                         | ONFOR     | MANCE / UPD                                | ATE                                     |              |   |                                 |
|               |           |           |          |        |  |           |  |   | QA Closed:   | Date:   |                                 |
| Work Orde     | ır.       |           |          |        | DISPOSITION                              |           |  | AGAINST DE                              | PARTMENT,    | /PROCESS                                      |                                 |
| Part N        | lo        |           |          |        | Rework Scrap Use-as-is Work Order Update | 1 1       | Skid-tube  Machining  noforming  Large Fab | Crosstube Small Fab Finishing Composite | •            | Water Jet d. Eng. Coor. re/Packaging Supplier | Engineering<br>Quality<br>Other |
| Root          |           |           |          | Descri | ption of work order update               | Initial   | Acti                                       | on                                      | Sign &       |   |                                 |
| Cause         | Date      | Step      | Qty      | (      | or Non-conformance                       | Chief Eng | Descri                                     | ption                                   | Date         | Verification                                  | QC Inspector                    |
| Doc/Data      |           |           |          |        |  |           |  |   |              |   |                                 |
| Equip/Tooling |           |           |          |        |  |           |  |   |              |   |                                 |
| Operator      |           |           |          |        |  |           |  |   |              |   |                                 |
| Material      |           |           |          |        |  |           |  |   |              |   |                                 |
| Setup         |           |           |          |        |  |           |  |   |              |   |                                 |
| Other         |           |           |          |        |  |           |  |   |              |   |                                 |
| Process       |           |           |          |        |  |           |  |   |              |   |                                 |
| Supplier      |           |           |          |        |  |           |  |   |              |   |                                 |
| Training      |           |           |          |        |  |           |  |   |              |   |                                 |
| Unapproved    |           |           |          |        |  |           |  |   |              |   |                                 |
|               |           |           |          |        | F  | AULT CATE | GORY                                       |   |              |   |                                 |
| Landir        | ng Gear   |           |          | ,      | General                                  | _ `       |  |   | •            | <u></u>                                       | •                               |
|               | Bending   |           |          |        | Bend                                     | Grain     |  |   | Ovalized     |   | Pressure/Forced                 |
| Ļ             | Centre No | ot Concer | ntric to | o/s    | BOM/Route                                | Hardwa    | ire  |   | Over/Under   | tolerance                                     | Temperature/Cure                |
| Į             | Cracks    |           |          |        | Broken/Damaged                           | Inspect   | ion Incomplete                             |   | Part Incorre | ct  | Weld                            |
|               | Crushed/  | Crimped.  |          |        | Burrs                                    | Instruc   | tions Incomplete/U                         | nclear                                  | Part Lost/Mi | issing  | Wrong Stock Pulled              |
|               | Cuffs     |           |          |        | Contamination                            | Mainte    | enance                                     |   | Part Moved   |   |                                 |
|               | Heat Trea | t         |          | Г      | Countersink                              | Mislabe   | eled                                       |   | Positioned V | Vrong   |                                 |

Misread

Out of Calibration

Outside Dimensions

Out of Sequence

Offset

Power Loss/Surge

Other

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Inspection Strip in Tube

Torque Waves in Extrusion

Cut Too Short

Drill Holes

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

| <b>Work Ord</b><br>December-19-1   |           |   |   | *946                         | 373*                   |            |              |               |               |             |                  | Page 4               |
|--|-----------|---|---|------------------------------|------------------------|------------|--------------|---------------|---------------|-------------|------------------|----------------------|
| Item ID:<br>Revision ID:<br>Item Name:                                   | D3027-7   |   |   | Accept                       | *N900                  | <b>040</b> | 100          | )* s          | Setup St      | art<br>top  | 1 41 4           | S1*<br>S2*           |
| Start Date:<br>Required Date<br>Reference:                               | 12/19/12  | Start Qty: 8.00<br>Req'd Qty: 8.00                | *8*<br>*8*                              |                              | Cust Item II Customer: | D:         |              |               |               |             |                  |                      |
| Approvals:   | Process P | Plan:   | Date:                                   | Tooling: SPC (Y/N):          |                        | ite:       |              | F             |               | tart<br>top | *NI              | R1*                  |
| Sequence ID/<br>Work Center 1<br>180<br>*1 2 0*<br>QC<br>Quality Control |           | Operation Description QC21- Final Inspection Memo | , | Set Up/<br>Run Hours<br>0.00 | Tool ID                | Tool#      | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | 3/          | Reject<br>Number | Insp. Stamp  M  13-2 |

|               |          |            |          |            |              |                            |     |          |                  |            | DQA:         | Date:         |                    |
|---------------|----------|------------|----------|------------|--------------|----------------------------|-----|----------|------------------|------------|--------------|---------------|--------------------|
| NCR:          | Yes      | / No       |          |            |              | WORK ORDER NON-            | COI | NFORM    | MANCE / UP       | DATE       |              |               |                    |
|               |          |            |          |            |              |                            |     |          |                  | ·          | QA Closed:   | Date          |                    |
| Work Ord      | er:      |            |          |            |              | DISPOSITION                |     |          |                  | AGAINST DE | PARTMENT     | /PROCESS      |                    |
|               |          |            |          |            | <del>.</del> | Rework                     | 7   |          | Skid-tube        | Crosstube  | 1            | Water Jet     | Engineering        |
| Part I        | No.      |            |          |            |              | Scrap                      | 1   |          | Machining        | Small Fab  | Pro          | d. Eng. Coor. | Quality            |
|               | -        |            |          |            | <del></del>  | Use-as-is                  | 1   |          | noforming        | Finishing  | 4            | re/Packaging  | Other              |
| NCR I         | No.      |            |          |            |              | Work Order Update          | 1   | 2        | Large Fab        | Composite  | 1            | Supplier      | 1                  |
|               |          |            |          |            |              |                            |     |          |                  | •          | •            |               |                    |
| Root          |          |            |          |            |              | ption of work order update | 1   | Initial  | Ac               | tion       | Sign &       |               |                    |
| Cause         | _        | Date       | Step     | Qty        | (            | or Non-conformance         | Ch  | nief Eng | Desc             | cription   | Date         | Verification  | QC Inspector       |
| Doc/Data      | Ш        |            |          |            |              |                            |     |          |                  |            |              |               |                    |
| Equip/Tooling | Ш        |            |          |            |              |                            |     |          |                  |            |              |               |                    |
| Operator      | Ш        |            |          |            |              |                            |     |          |                  |            |              |               |                    |
| Material      | Ш        |            |          |            |              |                            | 1   |          |                  |            | i            |               |                    |
| Setup         | Щ        |            |          |            |              |                            |     |          |                  |            |              |               |                    |
| Other         | Ц        |            |          |            |              |                            |     |          |                  |            |              |               |                    |
| Process       | Ш        |            |          |            |              |                            | İ   |          |                  |            |              |               |                    |
| Supplier      | Ш        |            |          |            |              |                            |     |          |                  |            |              |               |                    |
| Training      | Ц        |            |          |            |              |                            |     |          |                  |            |              |               |                    |
| Unapproved    | Ш        |            |          |            |              |                            |     |          |                  |            | <u> </u>     |               |                    |
|               |          |            |          |            |              | F.                         | AUL | T CATE   | GORY             |            |              |               |                    |
| Landi         |          |            |          |            |              | General                    | _   | 1        |                  | _          | -            | _             | _                  |
|               | -        | Bending    |          |            | <u> </u>     | Bend                       |     | Grain    |                  |            | Ovalized     |               | Pressure/Forced    |
|               | -        | Centre No  | t Concer | itric to ( | D/S          | BOM/Route                  |     | Hardwa   | re               |            | Over/Under   | tolerance     | Temperature/Cure   |
|               | $\vdash$ | Cracks     |          |            | _            | Broken/Damaged             |     | Inspecti | on Incomplete    |            | Part Incorre | ct            | Weld               |
|               | -        | Crushed/0  | Crimped. |            |              | Burrs                      |     | Instruct | ions Incomplete/ | 'Unclear   | Part Lost/M  | issing        | Wrong Stock Pulled |
|               | $\vdash$ | Cuffs      |          |            |              | Contamination              |     | Mainte   | nance            |            | Part Moved   |               |                    |
|               | Ш        | Heat Trea  | t        |            |              | Countersink                |     | Mislabe  | led              |            | Positioned V | Vrong         | _                  |
|               |          | Inspection | Strip in | Tube       |              | Cut Too Short              |     | Misread  |                  |            | Power Loss/  | Surge         | Other              |

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Ripples in Bend

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Order ID:

94673

Parent Item:

D3027-7

Parent Item Name:

Clip

**Start Date:** 12/19/12

Required Date: 1/11/13

Start Qty: 8.00

Required Qty: 8.00

Comments:

IPP C05.10.07Added forming step and Issue P/OKJ/JLM IPP Rev:B Now on WaterJet 08-12-08 JLM Verific

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status   |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|----------|
| M2024T3S.050                    |                        | Purchased     | No          |                     |                  | 100             | sf                 | 253.1968       | 0.024       | 0.2021056    |               |                | Jm 13-2. |
| 2024-T3 .050 sheet              |                        |               |             |                     |                  |                 |                    |                |             |              |               | ·              | JM 15-0  |

| Location | Loc Qty     | Loc Code |        |
|----------|-------------|----------|--------|
| MAT022   | 253.1968408 |          |        |
| 117684   | 22.4        |          |        |
| 121216   | 91.2968408  |          | - A    |
| 121889   | 139.5       |          | 191883 |

|   |                 |  |           |            |          |  |          |                             |  |   | DQA:                                   | Date:   | t                                     |
|---|-----------------|--|-----------|------------|----------|--|----------|-----------------------------|--|---|--|---|---------------------------------------|
| NCR:  | Yes             | / No                                   |           |            |          | WORK ORDER NON-                                | COI      | NFORM                       | MANCE / UP                                 | DATE                                    |  |   |                                       |
|   |                 |  |           |            |          |  |          |                             | _  |   | QA Closed:                             | Date:   |                                       |
| Work Ord  | er:             |  |           |            |          | DISPOSITION                                    |          |                             |  | AGAINST DE                              | PARTMENT                               | /PROCESS                                      |                                       |
| Part  <br>NCR   | No.             |  |           |            |          | Rework Scrap Use-as-is Work Order Update       |          | Therm                       | Skid-tube  Machining  noforming  Large Fab | Crosstube Small Fab Finishing Composite | +                                      | Water Jet d. Eng. Coor. re/Packaging Supplier | Engineering Quality Other             |
| Root  |                 |  |           |            | Descri   | ption of work order update                     |          | Initial                     | Act  | tion                                    | Sign &                                 |   |                                       |
| Cause   |                 | Date                                   | Step      | Qty        | (        | or Non-conformance                             | Ch       | nief Eng                    | Desci                                      | ription                                 | Date                                   | Verification                                  | QC Inspector                          |
| Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved |                 |  |           |            |          |  |          |                             |  |   |  |   |                                       |
|   |                 |  |           |            |          | F  | AUL      | T CATE                      | <b>30RY</b>                                |   |  |   |                                       |
| Landi   |                 | iear<br>Bending<br>Centre No<br>Cracks | ot Concer | ntric to ( | D/S      | General<br>Bend<br>BOM/Route<br>Broken/Damaged |          | Grain<br>Hardwa<br>Inspecti | re<br>on Incomplete                        |   | Ovalized<br>Over/Under<br>Part Incorre | ļ   | Pressure/Forced Temperature/Cure Weld |
|   | -               | Crushed/                               | Crimped.  |            |          | Burrs  |          | Instruct                    | ions Incomplete/l                          | Unclear                                 | Part Lost/M                            | issing  | Wrong Stock Pulled                    |
|   | Н               | Cuffs                                  |           |            | <u> </u> | Contamination                                  | $\vdash$ | Mainte                      |  | <u> </u>                                | Part Moved                             |   |                                       |
|   | $\vdash \vdash$ | Heat Trea                              |           | Table :    | <u> </u> | Countersink                                    | $\vdash$ | Mislabe                     |  |   | Positioned V                           |   | ٦٠٠٠                                  |
|   |                 | Inspection                             | -         | Tube       | -        | Cut Too Short                                  | $\vdash$ | Misread                     | I  | L_                                      | Power Loss/                            | Surge   | Other                                 |
|   | 1               | Ripples in                             | Bend      |            | i        | Drill Holes                                    | 1        | Offset                      |  |   |  |   |                                       |

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

| DART AEROSPACE LTD           | Work Order:  | 94613       |
|------------------------------|--------------|-------------|
| Description: Clip            | Part Number: | D3027-7     |
| Inspection Dwg: D3027 Rev: B |              | Page 1 of 1 |

## FIRST ARTICLE INSPECTION CHECKLIST

| X | First Article | Prototype |
|---|---------------|-----------|
|   |               | <br>      |

| Drawing<br>Dimension | Tolerance | Actual<br>Dimension | Accept | Reject | Method of<br>Inspection | Comments |
|----------------------|-----------|---------------------|--------|--------|-------------------------|----------|
| 1.850                | +/-0.010  | 1.856"              | _      |        | V                       | Jamo1    |
| 1.870                | +/-0.010  | 1.874"              |        |        | V                       |          |
| R0.13                | +/-0.030  | 0.13"               | -      |        | Ro                      |          |
|                      |           |                     |        |        |                         |          |
|                      |           |                     |        |        |                         |          |
|                      |           |                     |        |        |                         |          |
|                      |           |                     |        |        |                         |          |
|                      |           |                     |        |        |                         |          |
|                      |           |                     |        |        |                         |          |
|                      |           |                     |        |        |                         |          |
|                      |           |                     |        |        |                         |          |
|                      |           |                     |        |        |                         |          |
|                      |           |                     |        |        |                         |          |
|                      |           |                     |        |        |                         |          |
|                      |           |                     |        |        |                         |          |
|                      |           |                     |        |        |                         |          |
|                      |           |                     |        |        |                         |          |
|                      |           |                     |        |        |                         |          |
|                      |           |                     |        |        |                         |          |
|                      |           |                     |        |        |                         |          |
|                      |           |                     |        |        |                         |          |
|                      |           |                     |        |        |                         |          |

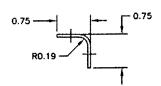
| L            |        |             | <b>^</b> | 2    |               |         |     |
|--------------|--------|-------------|----------|------|---------------|---------|-----|
| Measured by: | Jm     | Audited by: | 15       |      | Prototype App | oroval: | N/A |
| Date:        | 13-2-8 | Date:       | SMS      | 13-2 | 1             | Date:   | N/A |

| Rev | Date     | Change                             | Revised by | Approved      |
|-----|----------|------------------------------------|------------|---------------|
| Α   | 05.04.26 | New Issue P/O D350-689-013         | KJ/JLM     | A             |
| В   | 06.03.09 | Dwg Rev upated; Dimensions revised | KJ/JLM 🕠   | <i>S</i> //// |

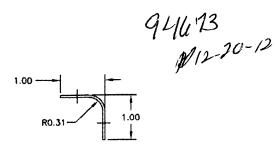


| RF CP |       | DRAWN BY    | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA |        |  |  |
|-------|-------|-------------|---|--------|--|--|
| CHECH | (ED , | APPROVED 11 | DRAWING NO. F                                     | REV. B |  |  |
|       | #     | #           | D3027 SHEET 1                                     | OF 2   |  |  |
| DATE  |       |             | TITLE   | SCALE  |  |  |
| 05.0  | 9.20  |             | CLIP  | 1:2    |  |  |
| Α     |       | 01.05.18    | NEW ISSUE   |        |  |  |
| В     |       | 05.09.20    | REMOVE HOLES FROM -7                              |        |  |  |

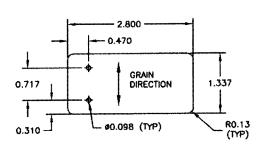




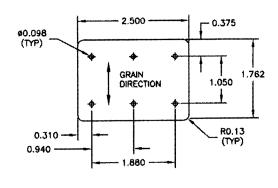
D3027-1 BEND DETAIL



D3027-3 BEND DETAIL



03027-1 FLAT PATTERN (0.063" SHEET)



D3027-3 FLAT PATTERN (0.050" SHEET)

## NOTES:

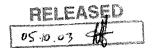
- 1) BREAK ALL UNMARKED SHARP CORNER 0.010 TO 0.020
- 2) MATERIAL: 2024-T3 (QQ-A-250/4)
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

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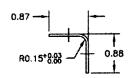
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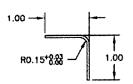
| D | ESIGN<br>RF | DRAWN BY     |             | ROSPACE LTD<br>y, ontario, canada |
|---|-------------|--------------|-------------|-----------------------------------|
| C | HECKED AL   | APPROVED JAJ | DRAWING NO. | REV. B                            |
|   | At          | #H           | D3027       | SHEET 2 OF 2                      |
| D | ATE         |              | TITLE       | SCALE                             |
| 0 | 5.09.20     |              | CLIP        | 1:2                               |



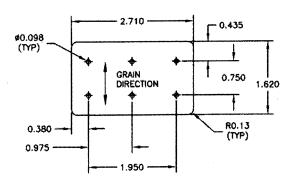
94413



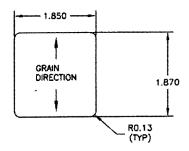
D3027-5 BEND DETAIL



D3027-7 BEND DETAIL



03027-5 FLAT PATTERN (0.050" SHEET)



03027-7 FLAT PATTERN (0.050" SHEET)

## NOTES:

- 1) BREAK ALL UNMARKED SHARP CORNER 0.010 TO 0.020
- 2) MATERIAL: 2024-T3 (QQ-A-250/4)
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

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